Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claims 1-27 (canceled).

Claim 28 (new): A method for determining a property of a portion of a substrate, the method comprising:

heating a region of a metal layer in the substrate using power modulated at a frequency that is predetermined to be sufficiently low to ensure that at least a majority of heat is transferred out of the region by diffusion rather than by a thermal wave;

measuring a change in reflectance of the metal layer at the frequency of modulation of the power of heating; and

using the change in reflectance in a programmed computer, to determine a measure of electrical conductance of a feature formed by patterning the metal layer.

Claim 29 (new): The method of Claim 28 wherein:
the frequency is lower than a maximum frequency of 5985 Hz.

Claim 30 (new): The method of Claim 28 further comprising:

changing the power used in said heating to a new power; and
repeating at the new power each of said heating, said measuring and said
using in said region.

Claim 31 (new): The method of Claim 28 further comprising: repeating said heating, said measuring and said using in another region.

Claim 32 (new): The method of Claim 28 wherein:

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Suite 360

2350 Mission College Blvd Suite 360 Santa Clara, CA 95054 (408) 982-8200 FAX (408) 982-8210 the feature is a via.

Claim 33 (new): The method of Claim 28 wherein: the feature is a conductive line.

Claim 34 (new): The method of Claim 33 wherein: the measure is resistance per unit length of the conductive line.

Claim 35 (new): The method of Claim 33 wherein: said frequency is smaller than a maximum frequency, said maximum frequency being inversely related to at least one of:

length of the conductive line; and a distance at which the temperature of said conductive line is an order of magnitude smaller than the temperature in said region.

Claim 36 (new): The method of Claim 28 further comprising: forming the metal layer by using at least one process parameter; and changing the process parameter if necessary depending on the measure of electrical conductance determined during said using.

Claim 37 (new): The method of Claim 28 wherein: said measuring comprises using a lock-in amplifier tuned to said frequency.

Claim 38 (new): A method for determining a property of a portion of a substrate, the method comprising:

heating a region of conductive material in the substrate using power modulated at a frequency that is predetermined to be sufficiently low to ensure that at least a majority of heat is transferred out of the region by diffusion rather than by a thermal wave:

measuring a change in reflectance of the region at the frequency of modulation of the power of heating; and

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FAX (408) 982-8210

using the change in reflectance in a programmed computer, to determine an indication of thermal conductivity of a dielectric material in contact with the conductive material.

Claim 39 (new): The method of Claim 38 wherein: the conductive material in the region is unpatterned.

Claim 40 (new): The method of Claim 38 wherein:

the conductive material in the region is comprised in a plurality of conductive lines.

Claim 41 (new): The method of Claim 38 further comprising:
changing the power used in said heating to a new power; and
repeating at the new power each of said heating, said measuring and said
using in said region.

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